

EXHIBIT 4

Alexander, Caleb_CT2 Rev. Appx D - Redress Model Erratum_8-26-2020_Confidential.xlsx

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Cabell-Huntington Community Opioid Epidemic Abatement Estimates
Last updated: August 24, 2020

This worksheet contains redress models and their population inputs
for opioid abatement, 2021-2035.

Abatement Categories**Category 1: Prevention - Reducing Opioid Oversupply and Improving Safe Opioid Use**

- 1A. Health Professional Education
- 1B. Patient and Public Education
- 1C. Safe Storage and Drug Disposal
- 1D. Community Prevention and Resiliency
- 1E. Harm Reduction
- 1F. Surveillance, Evaluation, and Leadership

Category 2: Treatment - Supporting Individuals Affected by the Epidemic

- 2A. Connecting Individuals to Care
- 2B. Treating Opioid Use Disorder
- 2C. Managing Complications Attributable to the Epidemic
- 2D. Workforce Expansion and Resiliency
- 2E. Distributing Naloxone and Providing Training

Category 3: Recovery - Enhancing Public Safety and Reintegration

- 3A. Public Safety
- 3B. Criminal Justice System
- 3C. Vocational Training and Job Placement
- 3D. Reengineering the Workplace
- 3E. Mental Health Counseling and Grief Support

Category 4: Addressing Needs of Special Populations

- 4A. Pregnant Women, New Mothers, and Infants
- 4B. Adolescents and Young Adults
- 4C. Families and Children
- 4D. Homeless and Housing Insecure Individuals
- 4E. Individuals with Opioid Misuse

Summary



1A. Health Professional Education

	Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<u>1. Academic detailing</u>																
(1) Number of prescribers		1,254	1,267	1,279	1,292	1,306	1,319	1,332	1,346	1,360	1,373	1,387	1,401	1,416	1,430	1,445
(2) Proportion of prescribers to receive academic detailing		15.0%	13.9%	12.8%	11.9%	11.0%	10.2%	9.4%	8.7%	8.0%	7.4%	6.9%	6.4%	5.9%	5.4%	5.0%
(3) Number of prescribers to receive academic detailing		188	176	164	153	143	134	125	117	109	102	95	89	83	78	73
(4) Total number of academic detailers needed		0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2
<u>2. Continuing healthcare provider education</u>																
(5) Number of prescribers eligible for continuing professional education		1,254	1,267	1,279	1,292	1,306	1,319	1,332	1,346	1,360	1,373	1,387	1,401	1,416	1,430	1,445
(6) Total continuing education hours		5,015	2,533	2,559	2,585	2,611	2,638	2,665	2,692	2,719	2,747	2,775	2,803	2,831	2,860	2,889
Notes	Input	Source(s)														
(1) Number of prescribers adjusted by annual employment growth rate starting in 2017	683	2017 data. Health Resources and Services Administration. Area Health Resources Files. https://data.hrsa.gov/topics/health-workforce/ahrh .														
Number of physicians and dentists	198	2017 data. Health Resources and Services Administration. Area Health Resources Files. https://data.hrsa.gov/topics/health-workforce/ahrh .														
Number of nurse practitioners	323	2017 data. Health Resources and Services Administration. Area Health Resources Files. https://data.hrsa.gov/topics/health-workforce/ahrh .														
Number of physician assistants	1,204	Sum of the number of physicians, dentists, nurse practitioners, and physician assistants.														
Total number of prescribers		Weighted average of physicians, nurse practitioners, and physician assistants annual employment growth rates. 2016-2026 10-year employment growth rates were converted to annual employment growth rates. (1) Physicians: U.S. Department of Labor, Employment & Training Administration. West Virginia O-NET data. https://www.onetonline.org/link/summary/29-1171.00 . (2) Nurse practitioners and physician assistants: West Virginia Department of Commerce. West Virginia Long Term Occupational Projections 2016-2026 (Work Force for Investment Area 2). http://lmi.workforcewv.org/LTProjections/LTOccupationalProjections.html .														
Prescribing population annual employment growth	1.02%															
(2) Yearly estimate from 15% in year 1 to 5% in year 15		The majority of opioid volume is comprised of prescriptions written by a small percentage of prescribers. Thus, the top 15% opioid prescribers of the prescribing population will be targeted in the first year and top 5% by year 15 of the abatement plan. Chang HY, Lyapustina T, Rutkow L, Daubresse M, Richey M, Faul M, Stuart EA, Alexander GC. Impact of Prescription Drug Monitoring Programs and Pill Mill Laws on High-Risk Opioid Prescribers: A Comparative Interrupted Time Series Analysis. Drug and Alcohol Dependence. 2016;165:1-8.														
[3] = [1] * [2]																
[4] = [3] / 300	300	Number of unique prescribers visited by a detailer per year. Each prescriber will be visited four times each year (once per calendar quarter) by a detailer. 250 work days per year, but approximately one-fifth of the detailer time would be administrative. 6 prescribers per day * 200 work days / 4 visits per year. Expert opinion.														
[5] = [1]		Same as number of prescribers.														
[6] = [5] * health professional education hours per year																
Number of hours in year 1	4	Informed by National Institute on Drug Abuse. Health Professions Education, CME/CE Activities. https://www.drugabuse.gov/hidamed-medical-health-professionals/health-professions-education/cmece-activities .														
Number of hours in subsequent years	2	Informed by National Institute on Drug Abuse. Health Professions Education, CME/CE Activities. https://www.drugabuse.gov/hidamed-medical-health-professionals/health-professions-education/cmece-activities .														

1A. Professional Education

Costs Description	
[4]	Pharmacist full-time equivalent annual compensation (an academic detailer is typically a pharmacist)
[6]	Weighted average of physicians, dentists, nurse practitioners, and physician assistants median hourly wage



2A. Connecting Individuals to Care

	Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
<u>1. Helpline</u>																
[1] Number of helpline staff members		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
<u>2. Peer recovery coaches</u>																
[2] Total number of peer recovery coaches needed		12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
<u>3. Transportation assistance</u>																
Weekly average of number of patients in need of transportation assistance for outpatient OUD treatment		1,343	1,320	1,297	1,275	1,253	1,231	1,210	1,190	1,169	1,149	1,129	1,110	1,091	1,072	1,054
Total number of transportation vouchers needed for patients receiving outpatient OUD treatment per year		69,837	68,636	67,456	66,297	65,157	64,037	62,936	61,854	60,791	59,746	58,719	57,709	56,717	55,742	54,784
Weekly average of number of patients in need of transportation assistance for intensive outpatient OUD treatment		1,390	1,366	1,343	1,320	1,297	1,275	1,253	1,231	1,210	1,189	1,169	1,149	1,129	1,110	1,091
Total number of transportation vouchers needed for patients receiving intensive outpatient OUD treatment per year		289,184	284,213	279,327	274,525	269,805	265,167	260,608	256,128	251,725	247,397	243,144	238,964	234,856	230,819	226,850
[7] Total number of transportation vouchers needed per year		359,021	352,849	346,783	340,822	334,962	329,204	323,544	317,982	312,516	307,143	301,863	296,673	291,573	286,561	281,634
<u>4. Quick Response Teams</u>																
[8] Number of opioid-related ED visits and hospitalizations		957	914	873	834	796	761	727	694	663	633	605	577	552	527	503
[9] Number of QRTs needed		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
[10] Number of addiction counselors for QRTs		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
[11] Number of first responders for QRTs		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
[12] Number of peer recovery coaches for QRTs		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<u>5. Bridge programs</u>																
[13] Number of EDs		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
[14] Intervention Population Trend Ratio		0.96	0.91	0.87	0.83	0.79	0.76	0.73	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.50
OUD Opioid Use Disorder, QRT Quick Response Team; ED Emergency Department																

Notes	Input	Source(s)
[1] Number of full-time equivalent (FTE) helpline staff	3	Three 8-hour shifts to maintain 24/7 hotline coverage by licensed clinical social worker-level staff and/or crisis intervention specialists. Informed by Substance Abuse and Mental Health Services Administration. National Helpline: https://www.samhsa.gov/find-help/national-helpline .
[2] Total number of peer recovery coaches needed per year	12	Total sum of number of peer recovery coaches needed for EDs, SSPs, recovery houses, and OTPs.

2A. Connecting Individuals

Number of peer recovery coaches needed per ED	2	Each ED should have 2 FTE peer recovery coaches. Expert opinion.
Number of peer recovery coaches needed per syringe service program (SSP)	2	Each SSP should have 2 FTE peer recovery coaches. Expert opinion.
Number of peer recovery coaches needed per recovery house	0.25	Every 4 recovery houses should have 1 FTE peer coach. Expert opinion.
Number of peer recovery coaches needed per opioid treatment program	1	Each OTP should have 1 FTE peer coach. Expert opinion.
Number of EDs in Cabell County	2	2019 data. West Virginia Department of Health & Human Resources, Hospital Emergency Room Dashboard Related to Overdoses. https://dhr.wv.gov/office-of-drug-control-policy/datadashboard/Pages/Hospital-Emergency-Room-Dashboard-Related-to-Overdoses.aspx .
Number of SSPs in Cabell County	1	Retrieved from tab "1E. Harm Reduction".
Number of recovery houses	9	2020 data. Jobs & Hope West Virginia. https://jobsandhope.wv.gov/training-and-treatment-centers/ .
Number of opioid treatment programs (OTPs)	4	2020 data. Jobs & Hope West Virginia. https://jobsandhope.wv.gov/training-and-treatment-centers/ .
[3] Yearly estimate		Retrieved from tab "2B. OUD Treatment".
[4] = [3] * 1 voucher per week * 52 weeks	1	One voucher per week. Center for Substance Abuse Treatment. Substance Abuse: Administrative Issues in Outpatient Treatment. Treatment Improvement Protocol (TIP) Series 46. DHHS Publication No. (SMA) 06-4151. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006. https://store.samhsa.gov/product/TIP-46-Substance-Abuse-Administrative-Issues-in-Outpatient-Treatment/SMA12-4151?referer=from_search_result .
[5] Yearly estimate		Retrieved from tab "2B. OUD Treatment".
[6] = [5] * 4 vouchers per week * 52 weeks	4	Four vouchers per week. Center for Substance Abuse Treatment. Substance Abuse: Clinical Issues in Intensive Outpatient Treatment. Treatment Improvement Protocol (TIP) Series 47. DHHS Publication No. (SMA) 06-4182. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2006. https://store.samhsa.gov/product/TIP-47-Substance-Abuse-Clinical-Issues-in-Intensive-Outpatient-Treatment/SMA13-4182 .
[7] = [4] + [6]		2019 data. Estimated imputed by 20% to account for non-attendance ED drop-outs. west virginia department of health & human resources; Hospital Emergency Room Dashboard Related to Overdoses. https://dhr.wv.gov/office-of-drug-control-policy/datadashboard/Pages/Hospital-Emergency-Room-Dashboard-Related-to-Overdoses.aspx .
[8] Number of opioid-related ED visits and hospitalizations * [14]	1,002	2018 data. QRT caseload is based on an average of 972 overdose referrals per year (81 referrals per month). Informed by (1) Huntington Quick Response Team. https://www.helpandhopewv.org/sudsummit/docs/QRT%20-%20Larrecsa%20Cox.pdf . (2) Cover2 Resources, Summit County QRT. https://cover2.org/programs/quick-response-teams/ .
[9] = [8] / 972	972	Each QRT should include an addiction counselor. Expert opinion.
[10] = [9]		Each QRT should include a first responder. Expert opinion.
[11] = [9]		Each QRT should include a peer recovery coach. Expert opinion.
[12] = [9]		2019 data. West Virginia Department of Health & Human Resources, Hospital Emergency Room Dashboard Related to Overdoses. https://dhr.wv.gov/office-of-drug-control-policy/datadashboard/Pages/Hospital-Emergency-Room-Dashboard-Related-to-Overdoses.aspx .
[13] Number of EDs in Cabell County	2	
[14] Retrieved from "Abatement Scaling" tab		
Costs Description		
[1] Licensed clinical social worker-level staff and/or crisis intervention specialists FTE annual compensation		
[2] Peer recovery coach FTE annual compensation		
[7] Cost per transportation voucher		
[10] Addition counselor FTE annual compensation		
[11] First responder FTE annual compensation		
[12] = [2]		
[13] Bridge Program cost per ED		

Suggested Costs	Value	Source(s)
Bridge Program cost per ED	\$260,000	2018 cost. California Bridge Program available funding for a Star Site. Public Health Institute. http://www.phi.org/wp-content/uploads/migration/uploads/files/CA%20Bridge%20Program_SITE%20SELECTION%20RFA_16Nov2018.pdf .